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Elixo 500 24 V

EN Installation manual
ES Manual de instalación
PT Manual de instalação
EL Εγχειρίδιο εγκατάστασης

HOME MOTION BY somfy

5054405A

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GENERAL INFORMATION

This product, installed in accordance with this guide, complies with EN 12453 and EN 13241-1 standards.

Somfy hereby declares that this product complies with the essential requirements and other relevant provisions of Directive 1999/5/EC. A Declaration of Conformity is available at the web address www.somfy.com/ce (Elixo 500 24 V). Suitable for use in EU, CH and NO.

SAFETY

General information

Always read this installation manual and the safety instructions before installing this Somfy product.

This Somfy product must be installed by a professional motorisation installer, for whom these instructions are intended.

The use of any safety components not approved by Somfy remains the sole responsibility of the installer.

These instructions describe how to install, commission and operate this product.

Moreover, the installer must comply with current standards and legislation in the country in which the product is being installed, and inform his customers of the conditions for use and maintenance for the product.

Any usage outside of applications defined by Somfy constitutes non-compliance, and is therefore not covered by the guarantee. In this event, as for all usage not consistent with the instructions given herein, Somfy accepts no responsibility for harm or damage.

Safety instructions

Before installation, ensure that the gate frame conforms to current standards, particularly:

- The gate sliding rail must be straight and horizontal and the wheels must be able to support the weight of the gate.
- The gate should move easily over its entire travel distance and there should be no sign of excessive side sway.
- The upper guide should allow the gate exact clearance to ensure regular, silent movement.
- End stops must be installed on the ground at both the opening and closing stop positions.
- The position in which the motorisation mechanism will be fitted must allow for safe and easy manual release.

If after evaluation the gate system does not meet the conditions set out above, it must be repaired or, if necessary, replaced.

The selected safety accessories for the installation must comply with the current standards and regulations in force in the country in which the product is being installed.

Ensure that there are no danger zones (risk of crushing, cutting, trapping), between the gate and the surrounding fixed elements, caused by the opening movement of the gate.

On a barred gate, if the bars are more than 40 mm apart, install an appropriate safety device to prevent cutting.

Maintain a clear area of 500 mm behind the gate when it is completely open.

Take care while the gate is moving.

Place the fixed control devices and remote controls out of the reach of children.

Any switch without a locking device must be installed in direct view of the gate and away from any mobile parts. The minimum height at which it must be installed is 1.5 m. It must not be accessible to the public.

During installation of the motorisation:

- Remove any jewellery (bracelets, chains, etc.).
- For drilling and welding operations, wear special glasses and sufficient protection.
- Use the appropriate tools.
- Do not connect to the mains or to a backup battery before installation is complete.
- Be careful when handling the motorisation system to prevent any risk of injury.

In order to operate, the motorisation must be supplied with 230 V 50 Hz. The electric supply should:

- solely be used for the motorisation,
- have a minimum cross section of 1.5 mm²,
- be fitted with an approved all-pole switch with contact openings of at least 3.5 mm, fitted with a protection device (fuse or circuit breaker with a 16 A rating) and a differential device (30 mA),
- be installed in accordance with the current electrical safety standards.

It is recommended that the installation be fitted with a lightning conductor (in compliance with standard NF C 61740, maximum residual voltage 2 kV).

When installation is complete, ensure that the mechanism is correctly set and that the gate changes direction when it encounters an obstacle.

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Regularly check the condition of the gate. Gates in poor condition must be repaired, reinforced or even replaced. Check that the various motorisation component's screws and fittings are correctly tightened.

Before carrying out any work on the installation, switch off the power supply and/or disconnect any backup batteries.

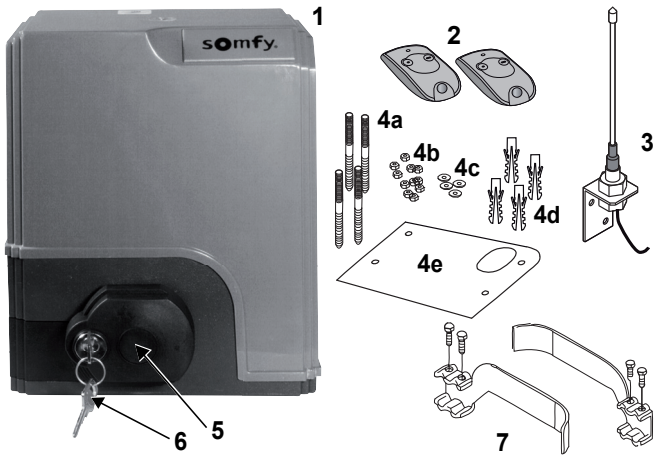
Motorising an existing gate

Carry out a stress test with a measuring device which conforms to the requirements set out on in clause 5.1.1 of standard EN 12445.

PRODUCT DESCRIPTION

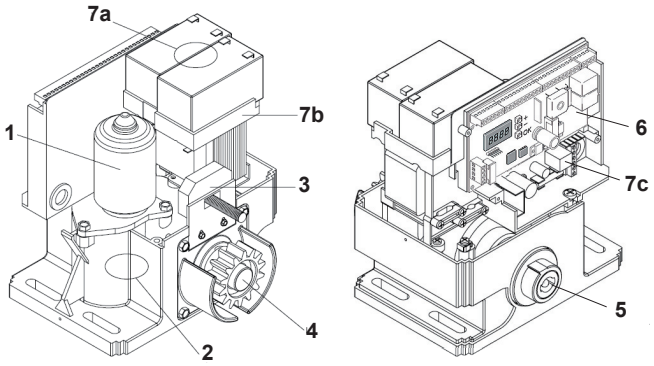
Contents of the standard kit

1	Elixo 24 V Motor	x 1
2	Keytis 2 RTS remote control	x 2
3	RTS 3 m offset aerial	x 1
Ground mounting kit:		
4a	Lag screws	x 4
4b	Nut	x 8
4c	Washer	x 4
4d	Plug	x 4
4e	Base plate	x 1
5	Manual release handle assembly	x 1
6	Handle locking key	x 2
7	End limit brackets	x 2

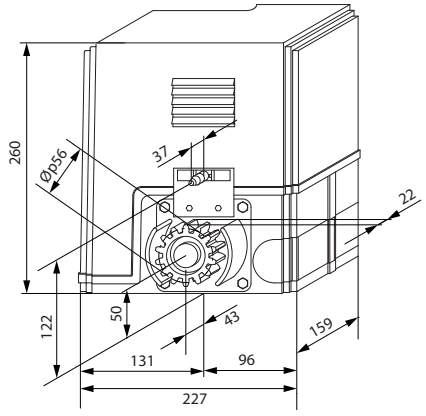


Description of the motorisation

1	Motor
2	Reduction unit with worm screws - helicoid drive wheel
3	Electro-mechanical end limit unit
4	Pinion
5	Manual release mechanism
6	Control unit
Battery pack (optional, ref. 9014612):	
7a	2 backup batteries
7b	Battery holder tray
7c	Battery power supply management card



General motor size



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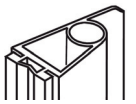
Area of application

Sliding gates up to 500 kg and carrying out 30 operations per day.

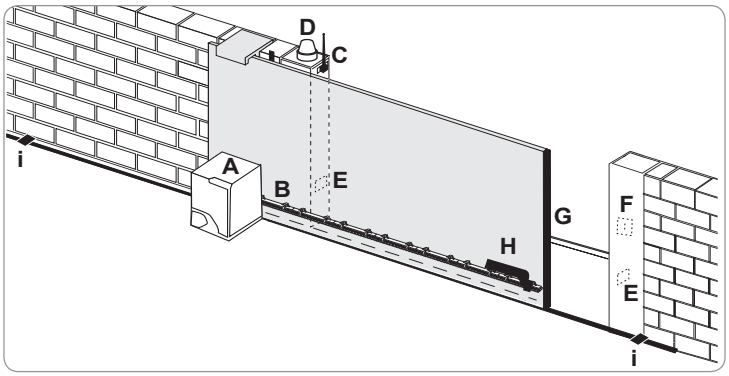
To ensure the safety of all equipment and persons, respect the information given in the table:

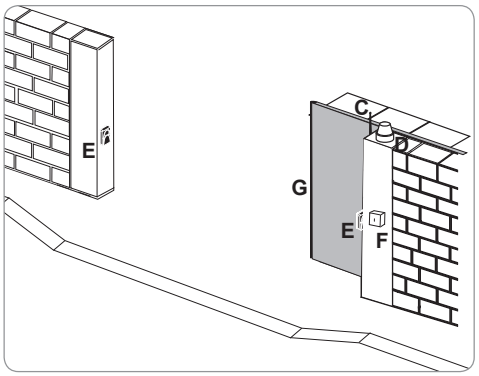
For a gate weighing ...	use ...	Ref.
0 to 300 kg	a passive rubber profile on the end of the gate	9014597 
300 to 500 kg	a passive rubber profile on the end of the gate	9014598

If using a different rubber profile to those listed above, ensure that the installation conforms with current regulations.

General view of a standard installation

A	Motor
B	Rack
C	Aerial
D	Amber light
E	Set of photoelectric cells
F	Keyswitch
G	Passive rubber profile
H	End limit brackets
i	End stops in the ground





INSTALLATION

The motorisation must be disengaged during installation.

Assembling the manual release handle

[1] Insert the release handle into the specific housing on the motor.

[2] Tighten the release handle.

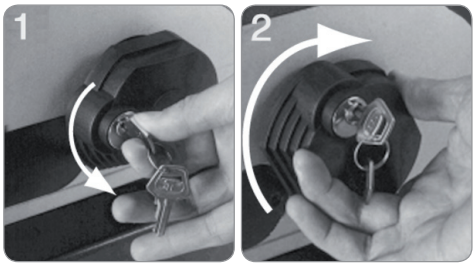
[3] Fit the screw cover.

Disengaging the motorisation

[1] Turn the key a quarter of a turn to the left.

[2] Turn the release handle to the right.

Do not forcibly push the gate. Hold the gate over its entire travel during manual manoeuvres.



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Installing the motorisation

Fitting the mounting system

The motor mounting kit provided is to be used on a concrete base. For all other types of mounting, use the appropriate fittings.

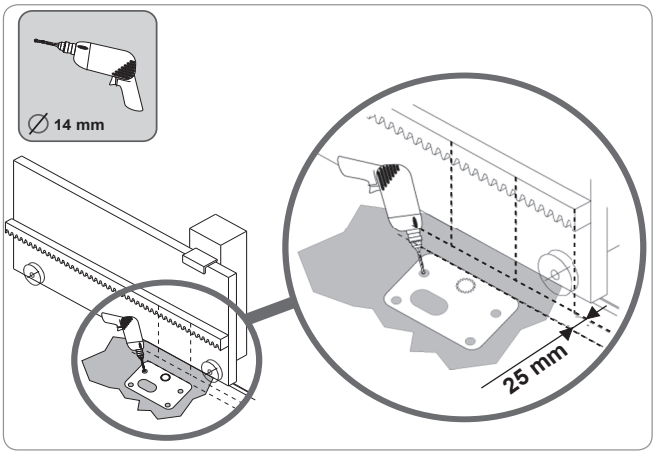
[1] Position the base plate:
- parallel to the gate,
- with the symbol of the pinion pointing towards the gate,
- by moving it by 25 mm in relation to the front line of the rack (if the rack is fitted with a cover, measure from the line on the rack, not on the cover),
- so that it does not obstruct movement and to ensure the gate is able to open and close completely.

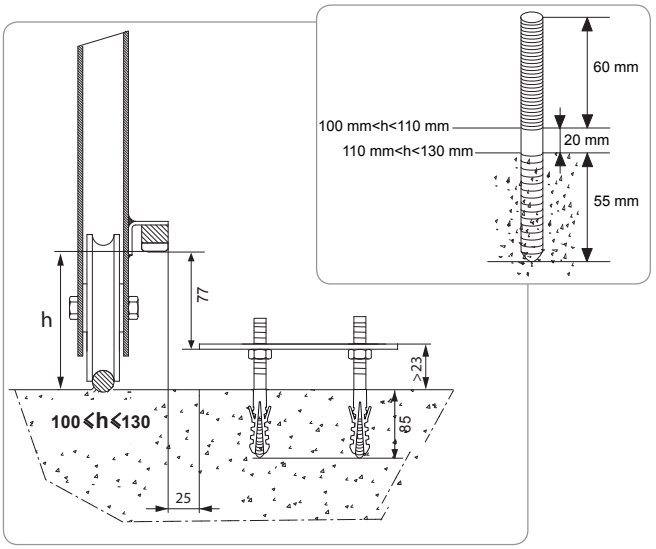
[2] Mark the location for the ground mountings.

[3] Drill to a depth of 85mm.

[4] Insert the plugs.

[5] Tighten the lag screws on:
- the threaded section for a rack height of between 110 and 130 mm,
- the threaded section + the unthreaded section for a rack height of between 100 and 110 mm.





To facilitate tightening of the lag screws, use 2 nuts to form a “double nut”.

[6] Screw a nut onto each lag screw.

[7] Place the base plate onto the lag screws with the symbol of the pinion pointing towards the gate. It must be a minimum of 23 mm from the ground.

Mounting the motor

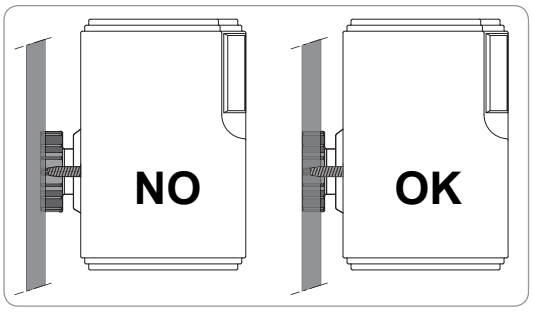
[1] Position the motor on the lag screws, insert it and push it towards the gate.

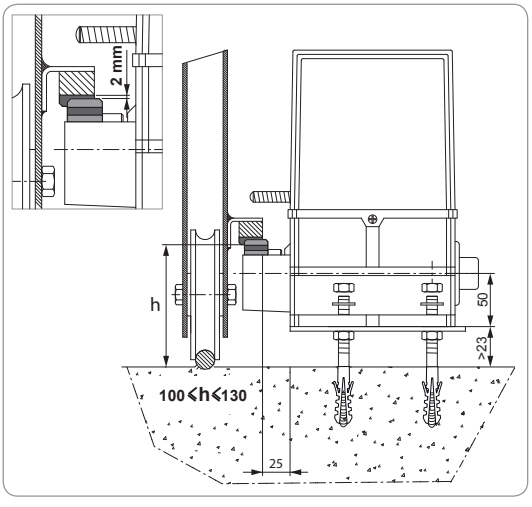
[2] Ensure the pinion is correctly positioned under the rack.

[3] Set the height of the motor and/or the rack to ensure a clearance of approximately 2 mm between the rack and the pinion. This setting is important to prevent premature wear of the pinion and rack; the pinion must not be supporting the weight of the gate.

[4] Check that:
- the setting nuts all come into contact with the base of the motor,
- the motor is level,
- the gate runs correctly,
- the clearance between the rack and pinion does not vary significantly over the gate’s travel.

[5] Fit a washer and nut onto each lag screw in order to fit the motor.





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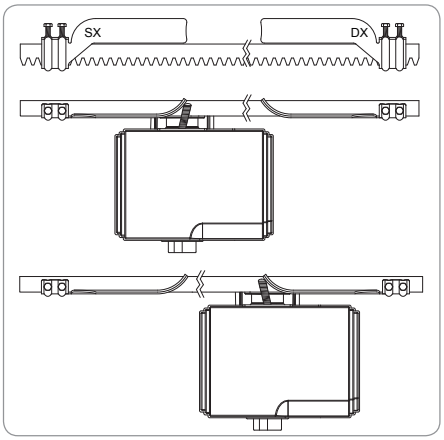
Fitting the end limit brackets

[1] Manually move the gate to the open position.

[2] Position a bracket onto the rack so that it activates the motor end limit contact.

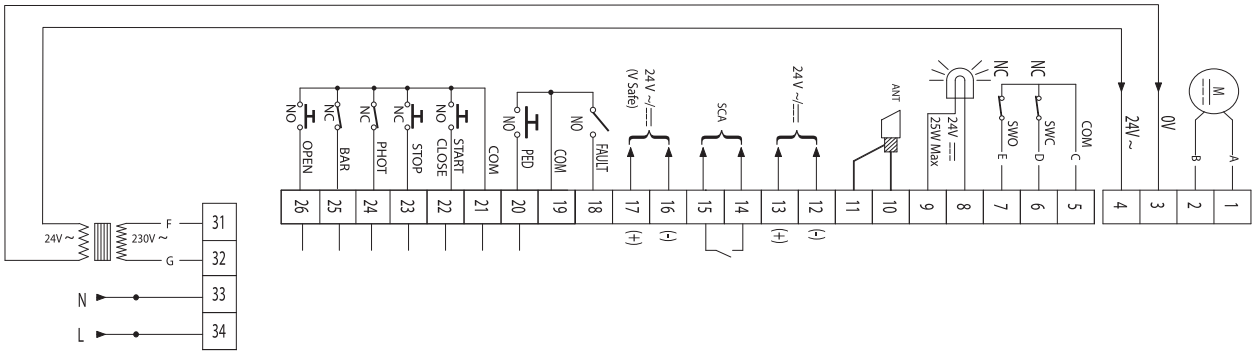
[3] Screw the bracket onto the rack.

[4] Manually move the gate to the closed position then repeat steps 2 and 3 to fit the second bracket to the rack.



Wiring

General wiring diagram



Terminals	Description	Function
1-2	A-B	Motor connection
3-4	0V-24V~	Secondary transformer
5	COM	Shared by end limit contacts
6	SWC	Closing end limit contact
7	SWO	Opening end limit contact
8-9		24 V output, flashing orange light
10	ANT	Aerial core
11	ANT	Aerial braid
12-13	24 V~/⎓	Alternating 24 V output for power supply to the additional devices
14-15	SCA	Gate status indicator output (open/closed)
16-17	24 V~/⎓ (V Safe)	Alternative 24 V output for power supply to, and autotest of, safety devices
18	FAULT	Input for safety devices autotest
19	COM	Shared by control inputs (18-20)
20	PED	Pedestrian opening control point input
21	COM	Shared by control inputs (22-23-24-25-26)
22	START/CLOSE	Sequential operation control point input (adjustable in the LoGic menu, see pg.11)
23	STOP	Control point input (closing only)
24	PHOT	Photoelectric cell input
25	BAR	Safety edge sensor input
26	OPEN	Opening control point only
31-32		Primary transformer 230 V~
33	N	Neutral single-phase 230 V~, 50-60 Hz power supply
34	L	Live single-phase 230 V~, 50-60 Hz power supply

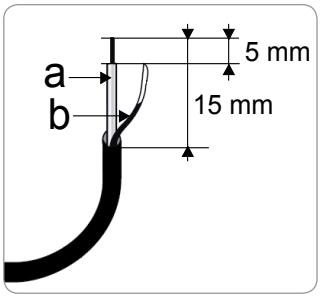
Aerial wiring

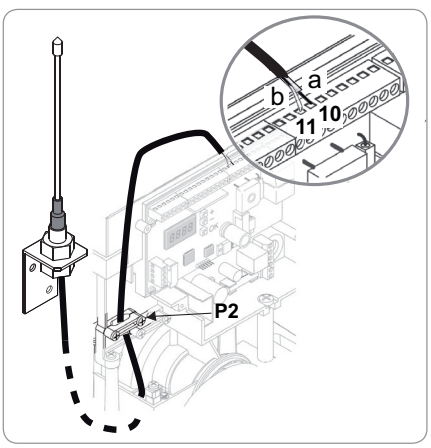
For optimum reception, the aerial must not be cut and must be as far away as possible from the power supply terminal blocks and wires. The aerial must always be installed at a height and must be visible from a distance.

Do not fit the aerial to a metal post or behind a wire fence.

Cut the coaxial cable if it is too long. Shortening the cable will improve the signal (a coaxial wire which is too long, extended or connected with an insulating screw joint will distort the signal).

The mounting plate is an active component of the aerial. It must not be removed or modified.





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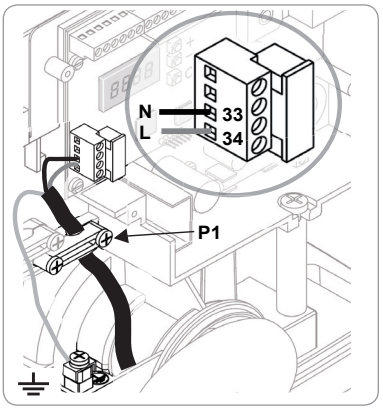
Connection to the power supply

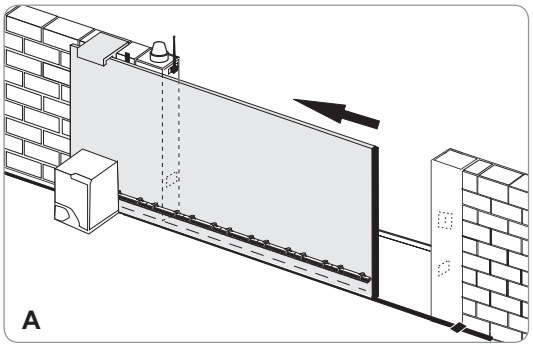
To connect the motor to the power supply, use a standard, multicore cable with a minimum cross section of 3x1.5 mm².

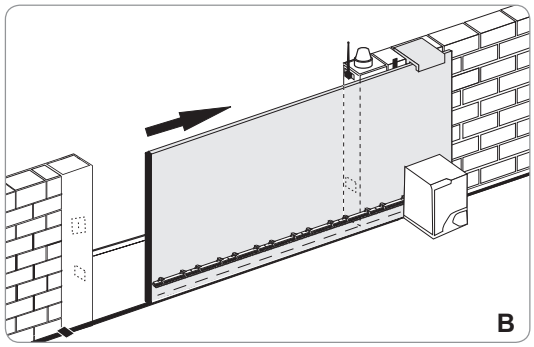


Inputs 23, 24 and 25 must be bridged to terminal 21 if they are not used to connect a safety device.

Checking the motorisation wiring

		Motorisation to the left (A)	Motorisation to the right (B)
	Wire	Terminal	Terminal
Motor connection	Red	1	2
	Blue	2	1
End limit connection	Brown	6	7
	Red	7	6
	Black	5	5





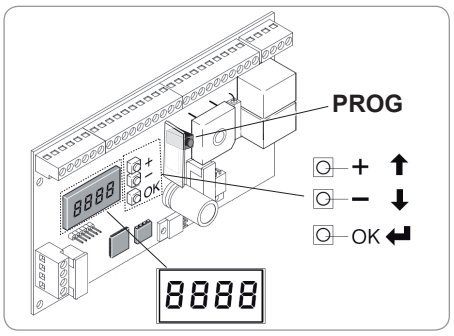
Switch on the power to the installation before commissioning.

QUICK COMMISSIONING

Installer interface

Parameter setting is carried out using the buttons on the control unit

Press ...	to...
OK	enter the menu and sub-menu
	confirm a parameter setting
+ OR **-**	select parameters
	modify a parameter value
+ AND **-** (press simultaneously)	exit the active menu



Language selection

[1] Press the OK button. Information is displayed on the screen (information details - pg. 12).

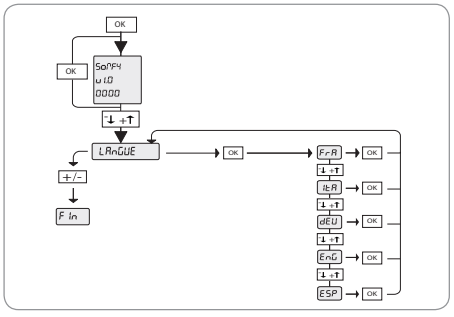
[2] Press the OK button.

[3] Use the + and - buttons on the control unit to access the "LAnGUE" (Language) menu.

[4] Press the OK button.

[5] Use the + and - buttons to access the required language.

[6] Press the OK button to confirm your selection.



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Memorising the remote controls

To memorise a remote control:

[1] Press the PROG button on the control unit for 2 seconds. The red indicator light will come on.

[2] Press a channel on the remote control to which the motorisation will be linked within 2 minutes. The red indicator light flashes, the remote control has been memorised.

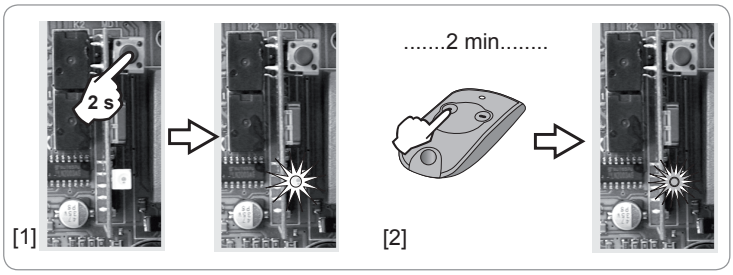
If this procedure is carried out using a channel which has already been memorised, this channel will be cleared.

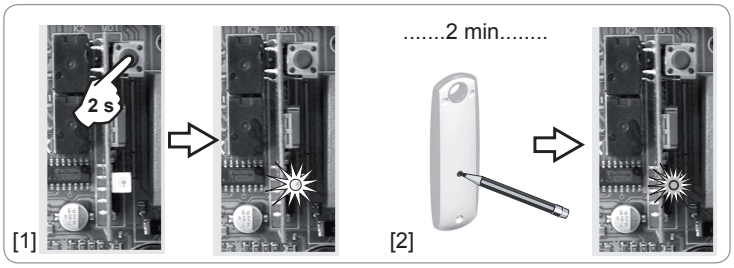
To add other remote controls: repeat the above procedure.

To add a Telis type remote control:

[1] Press the PROG button on the control unit for 2 seconds. The red indicator light will come on.

[2] Press the PROG button on the back of the Telis. This must be done within 2 minutes. The red indicator light flashes, the remote control has been memorised





To exit programming mode without memorising a remote control: briefly press the PROG button on the control unit.

Self-learning

The gate's travel self-learning is essential when commissioning the motorisation.

During self-learning, the obstacle detection function is not active. Remove any objects or obstacles and do not allow any persons near or inside the operating range of the motorisation.

To carry out an emergency stop during self-learning, use a memorised remote control.

Before beginning self-learning

Ensure the rail is clean.

Manually move the gate to the closed position.

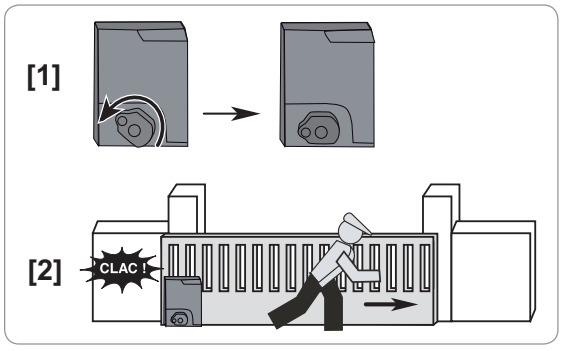
Re-engage the motorisation:

[1] Turn the release handle to the left.

[2] Move the gate manually until the drive mechanism re-locks.

[3] Turn the key a quarter of a turn to the right.

SuC (closing end limit activated) should be displayed on the motorisation screen.
If SuO (opening end limit activated) is displayed, check the motorisation wiring (see pg. 7).



Start self-learning

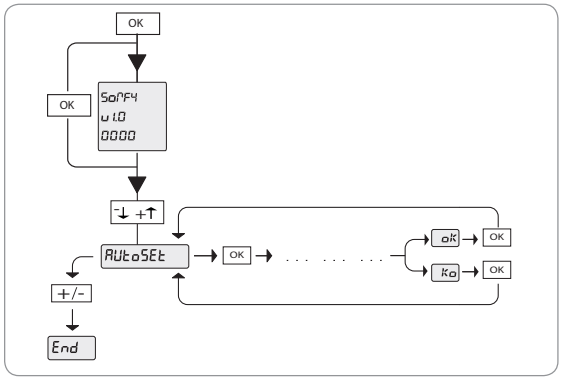
Self-learning comprises 2 cycles (1 cycle = 1 opening + 1 closing):

- The 1st cycle is carried out without slowing down and enables the motor to memorise the gate's entire travel.
- The 2nd cycle includes slowing down in order to establish the minimum torque value needed for movement of the gate.

[1] Press the OK button on the control unit twice to access the menus.

[2] Use the + and - buttons on the control unit to access the AutoSet menu.

[3] Press the OK button to confirm. Self-learning has started. The gate must complete 2 full cycles.



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If self-learning is correct, OK is displayed on the motorisation screen.

If self-learning has failed, KO is displayed on the motorisation screen. Check the following before restarting self-learning:

- the gate runs correctly,
- there is nothing obstructing the photoelectric cells (if fitted).

If self-learning is interrupted, return the gate to the closed position and restart self-learning.

If the slowing down speed is subsequently changed, self-learning must be carried out again.

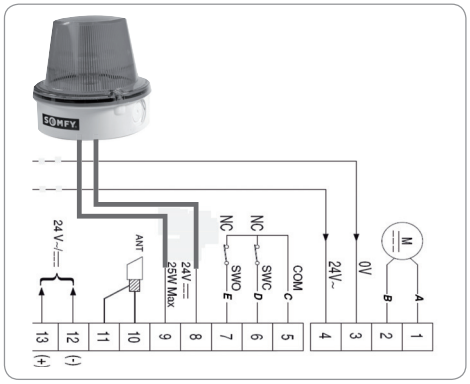
AT THIS STAGE IN THE INSTALLATION, THE MOTORISATION IS OPERATIONAL.

MOTORISATION OPERATION

See pages 2 and 3 in the user's manual.

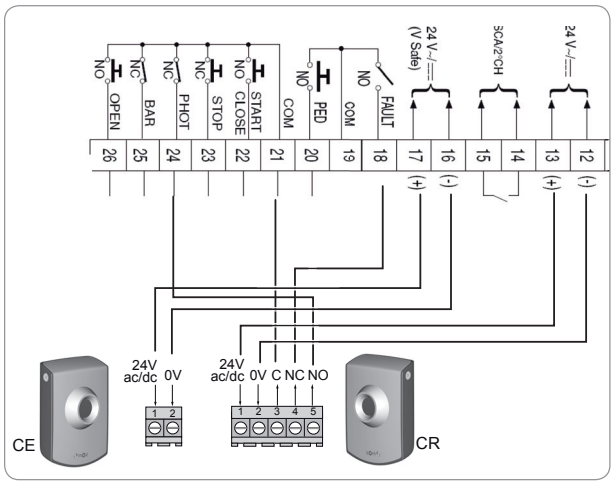
CONNECTING ADDITIONAL DEVICES

24 V integrated flashing amber light
(ref. 9 014 552)



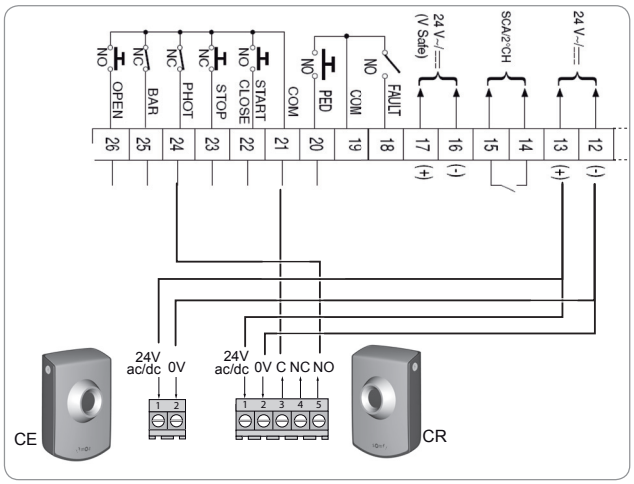
Photoelectric cells

With autotest



Activate the cell autotest function: tESt Phot to ON in the LoGIc menu.

Without autotest



Deactivate the cell autotest function: tESt Phot to OFF in the LoGIc menu.

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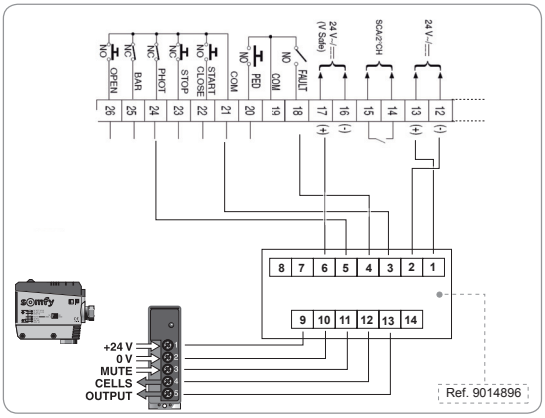
EN

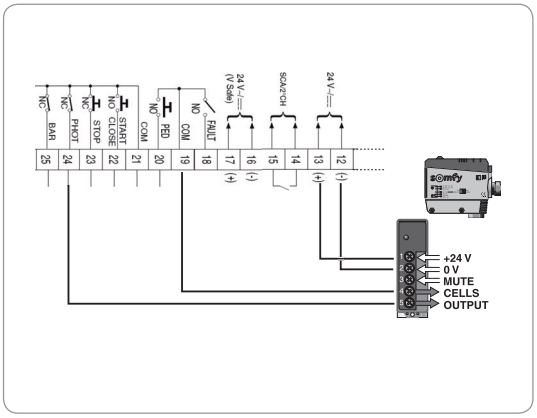
Reflex photoelectric cell

With autotest



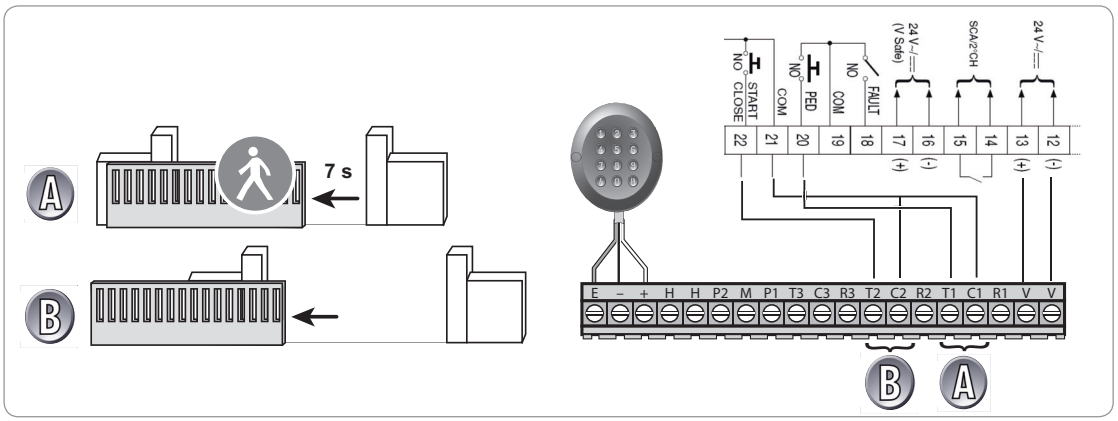
Activate the cell autotest function: tESt Phot to ON in the LoGIc menu.
On the cell, set the DIP switch1 to ON and the DIP switch2 to OFF.

Without autotest

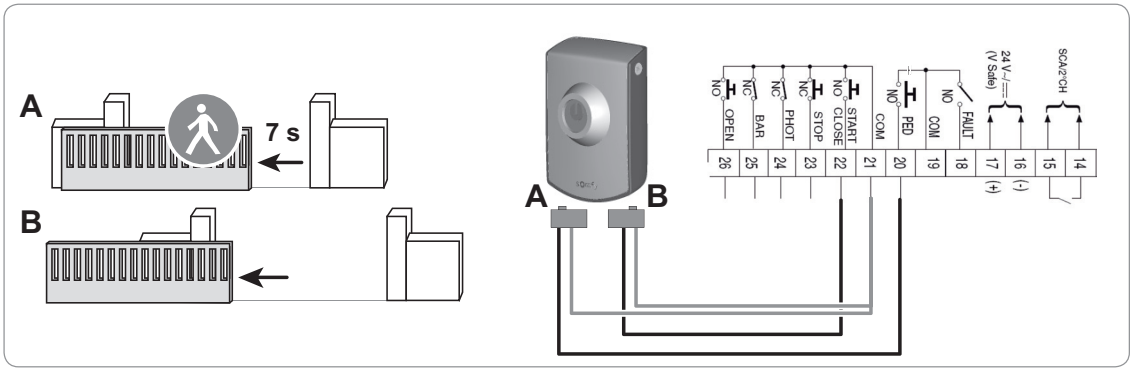


Deactivate the cell autotest function: tESt Phot to OFF in the LoGIc menu.
On the cell, set the DIP switch1 and the DIP switch2 to ON.

Wired keypad



Wired keyswitch



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PARAMETER SETTING

If the parameters are changed after self-learning has been carried out, ensure the installation conforms to all relevant standards.

Menu [Display]	Value	By default	Comments
Language [LAnGUAGE]: to select the language for displaying information on the control unit screen.			
	French [Fra] English [Eng] Spanish [Esp] German [Deu] Italian [Ita]	**Fra**	
Self-learning [AutoSet]: to start self-learning for the gate travel.			
Parameters [PArAM]: to change the torque, speed and slowing down values for the motorisation.			
Automatic closure time [tcA]	Between 3 and 120 seconds	**10 s**	Setting the time delay for automatic reclosing (If tcA is activated in LoGic)
Opening motor torque [oP. t] Closing motor torque [cLS.t] Opening motor torque while slowing down [oP. t Slow] Closing motor torque while slowing down [cLS. t SLow]	Between 1% and 99% Between 1% and 99% Between 1% and 99% Between 1% and 99%	**80%** **50%** **50%** **50%**	The setting for the minimum motor torque value needed to move the gate is carried out during auto-programming. Refer to the paragraph entitled “Display of the motor torque values during operation of the motorisation” pg. 13 to set the motor torque values.
Normal opening speed time [norM. oP. SPEED] Normal closing speed time [norM. cLS. SPEED]	Between 1 second and 2 minutes Between 1 second and 2 minutes	**15 s** **15 s**	The slowing down time during opening and closing can be set by changing the “normal speed time”; the higher the normal speed travel, the shorter the slowing down time. E.g.: if the duration of an opening manoeuvre is 15 seconds, for a slowing down time of 3 seconds, the “normal speed time” must be set to 12 seconds.
Slowing down speed [SLow SPEED]	0 - No slowing down 1 - Slowing level 1 (1/2) 2 - Slowing level 2 (1/3) **3 - Slowing level 3 (1/4)**	**3**	0 - Normal speed 1 - Average speed 2 - Slow speed **3 - Very slow speed**
Logic [LoGIc]: to select the motor operating mode and devices.			
Automatic closure [tcA]	ON: Activates automatic closure **OFF: Deactivates automatic closure**	**OFF**	The gate closes automatically after the programmed time delay.
3 Step [3 STEP]	ON: Activates the 3 step logic. **OFF: Activates the 4 step logic.**	**OFF**	3 STEP = operation in semi-automatic mode (see “User's manual” pg. 3). **4 STEP = operation in sequential mode** (see “User's manual” pg. 3).
Blocking impulses [IbL oPEn]	ON: In opening mode only **OFF: None**	**OFF**	Impulses during opening have no effect.
Photoelectric cell operation [Photoc. oPEn]	ON: In closing mode only. **OFF: In opening and closing mode.**	**OFF**	In closing mode, the gate stops then reverses its movement. In opening mode, cells are inactive. **In closing mode, the gate stops and reverses its movement once the cells are no longer obstructed.** **In opening mode, the gate stops then continues its movement once the cells are no longer obstructed.**
Photoelectric cell test [tESt Phot]	ON: Activates the cell autotest function. **OFF: Deactivates the cell autotest function.**	**OFF**	See the diagram for connection of the cells with autotest pg. 9 and 10.
Gate open indicator [ScA 2ch]	ON: The output between terminals 14 and 15 has been configured as the gate open indicator.		
Pre-warning [PrEAL]	ON: With pre-warning **OFF: Without pre-warning**	**OFF**	With pre-warning: the integrated flashing amber light comes on approximately 3 seconds before motorisation starts. **Without pre-warning: the integrated flashing amber light comes on when motorisation starts.**
Sustained action [hoLd-to-rUn]	ON: Operation with sustained action activated. **OFF: Operation with impulse action, according to 3 or 4 step logic.**	**OFF**	Operation in hold-to-run mode, only with a wired control: continuous movement while the control button remains pressed.

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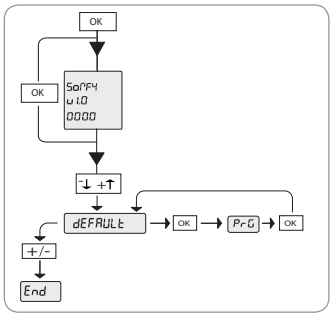
Menu [Display]	Value	By default	Comments
START-CLOSE selection [StArt - cLoSE]	ON: the input between terminals 21 and 22 operates as CLOSE. **OFF: the input between terminals 21 and 22 operates as START.**	**OFF**	CLOSE: the device connected between terminals 21 and 22 only enables the gate to be closed. **START: the device connected between terminals 21 and 22 enables the motorisation to operate in sequential mode.**
Pedestrian opening [PEdEStrIAn]	ON: Activates the pedestrian opening. **OFF: Deactivates the pedestrian opening.**	**OFF**	Operation of the pedestrian opening: pressing the button briefly opens the gate partially and pressing and holding the button opens the gate fully. Fixed opening time: 7 seconds.
Preset [dEFAULt]: to reset the motor (factory default settings).			

CLEARING THE REMOTE CONTROLS AND ALL SETTINGS

Clearing all remote controls

Press the PROG button on the motorisation control unit for more than 7 seconds. The indicator light flashes to indicate that all remote controls have been cleared.



Clearing all settings

[1] Press OK twice to access the menus.

[2] Use the + and - buttons to access the dEFAULt menu.

[3] Press OK to clear all settings.

The Elixo motorisation has been reset and returns to its original configuration (factory default settings).

Before using the motorisation, carry out a new self-learning procedure (see pg. 8).

DIAGNOSTICS

Meaning of messages displayed on the screen

Before accessing the menu list, the control unit screen displays the following information:

- Somfy,
- Control unit software version,
- Number of cycles carried out (expressed in hundreds; during the first 100 manoeuvres the screen displays 0000).

Whilst the motorisation is in use, messages are displayed to show the system's status.
In the event of incorrect operation, a message will be permanently displayed to show the device to be checked. If the problem is not corrected or if it persists, please contact Somfy technical assistance.

Message	Meaning	Permanent display
OK	Self-learning successful	
KO	Self-learning unsuccessful	
-:-	Awaiting input of a value or function	
End	Exit programming mode	
SuC	Closing end limit activated	
SuO	Opening end limit activated	
AMP	Obstacle detected	
PED	Pedestrian entry activated	Check that the device controlling pedestrian entry is operating correctly (keyswitch, wired keypad, etc.)
STRT	START entry activated	Check that the device controlling the START entry is operating correctly.
STOP	STOP entry activated	Check that the device controlling the STOP entry is operating correctly.
PHOT	PHOT entry activated	Check that nothing is obstructing the photoelectric cells. Check that the photoelectric cells are not dirty (see guide for the cells).
CLOSE	CLOSE entry activated	Check that the device controlling the CLOSE entry is operating correctly.
OPEN	OPEN entry activated	Check that the device controlling the OPEN entry is operating correctly.
SWO	Opening end limit entry activated	Faulty electro-magnetic detection system. Replace it.
SWC	Closing end limit entry activated	Faulty electromagnetic detection system. Replace it.
TH	Software thermal protection activated	Wait until the message disappears before continuing to use the motorisation.

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Display of the motor torque values during operation of the motorisation

During the opening and closing phases, four figures separated by a dot are displayed on the screen, for example 35.40. The figures are updated whilst the gate is moving. They represent the actual torque used (35) and the torque set during the self-learning procedure (40).

These values enable the torque entry to be corrected.

If the value of the actual torque used during movement of the gate more or less approaches the value of the programmed torque, operating faults may occur in the future, due to wear or slight warping of the gate.

If the value of the actual torque used exceeds the value of the programmed torque, the gate will stop and reverse by several centimetres.

TECHNICAL SPECIFICATIONS

MOTOR	
Power supply	230 V 50/60 Hz
Motor power supply	24 Vdc
Motor revolutions	3500 rpm
Power consumption	70 W
Maximum consumed current	0.5 A (23 Vac) - 1 A (110 Vac)
Reduction ratio	1/44
Revolutions at output	79 rpm
Pinion	4 mm module (14 teeth)
Gate speed	12 m/min
Maximum weight of the gate	500 kg
Maximum torque	20 Nm
Lubrication	Permanent grease
Manual manoeuvres	Mechanical release with handle
Obstacle detection	Electronic torque limiter
Number of cycles/day	30
Control unit	Built in with LCD display
Backup batteries (optional)	Two 12 V 1.2 Ah batteries
Operating temperature	-20 °C to +60 °C
Index protection rating	IP24
Weight	7 kg (≃ 70 N)
Dimensions	see “General motor size” pg.3
ELECTRONICS	
Accessories power supply	24 Vac (180 mA)
Automatic closure time	between 3 and 120 seconds
Operating time	120 s
Pedestrian opening time	7 seconds (fixed)
Reversal pause	1 second approximately
Integrated flashing amber light connection	24 V maximum 25 W
Fuses	250 V T 0.62 A and T 1 A
Built in radio receiver	RTS
Number of memorizable remote controls	36
RTS remote control frequency	433.42 Mhz
Aerial resistance	50 Ohm (RG58)

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